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EXAMINER	
NGUYEN, DUSTIN	

ART UNIT	PAPER NUMBER
2154	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/676,240	LI ET AL.	
	Examiner	Art Unit	
	Dustin Nguyen	2154	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 November 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-50* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-50* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *01 October 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *08/16/04, 11/15/06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1 – 50 are presented for examination.

Claim Objections

2. Claim 22 is objected to because of the following informalities: "The method" should be corrected as "The media gateway". Appropriate correction is required.

3. Claim 46 is objected to because of the following informalities: "The method" should be corrected as "The computer program product". Appropriate correction is required.

4. Claims 48 and 50 are objected to because of the following informalities: "The system" should be corrected as "The computer program product". Appropriate correction is required.

5. Claim 6 is objected to because of the following informalities: "extracting the source network address and from the initial media packet" should be corrected as "extracting the source network address from the initial media packet". Appropriate correction is required.

6. Claim 7 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the

claim(s) in independent form. Claim 7 repeats the limitation of learning the source network address from the initial media packet and broadcasting to a plurality of network interface cards.

7. Claim 19 is objected to because of the following informalities: the method further **comprises comprising**. Appropriate correction is required.

8. Claim 19 is objected to because of the following informalities: "wherein inserting an internal media processor" should be corrected as "wherein inserting an external media processor" since claim 18 claims the method further comprises seamlessly inserting an external media procoessor. Appropriate correction is required.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10. Claims 1-5, 9, 14, 15, 20-25, 27-35 are rejected under 35 U.S.C. 102(e) as being anticipated by Maher, III et al. [US Patent No 2004/0128554].

11. As per claim 1, Maher discloses the invention as claimed including a method for per-session network address translation (NAT) learning in a media gateway [i.e. a network processing system] [Figure 3; Abstract; and paragraph 0020 and 0032], the method comprising: in a media gateway:

(a) receiving a media session setup request for establishing a media session [i.e. receiving an initial request] [Figure 6; and paragraphs 0087 and 0090];

(b) in response to the media session setup request, assigning a local network and transport address combination identifying a media processing resource within the media gateway for processing a media stream associated with the media session [i.e. replacing IP addresses and ports embedded in the signaling messages with a virtual address and port managed by the network processing system] [paragraphs 0032, 0034, 0056 and 0091];

(c) receiving at least one initial media packet in the media stream [i.e. test packet] [Figure 6; and paragraphs 0033 and 0092], the initial media packet being addressed to the local network and transport address combination and having a source network address and a source transport address, at least one of the source network address and the source transport address being assigned by a network address translator [paragraphs 0092, 0093 and 0095];

(d) learning the source network address from the initial media packet [i.e. learn the dynamic address and port assigned] [paragraphs 032, 0034, 0053 and 0056];

(e) processing the initial media packet using the media processing resource assigned to the session [paragraph 0095];

(f) accepting and processing subsequent media packets having the assigned local network address and local transport address in their destination address fields and the learned source

network address in their source address fields [i.e. successive data packets] [paragraphs 0066 and 0095]; and

(g) repeating steps (a)-(f) for each new incoming session to the media gateway and thereby performing NAT learning on a per-session basis [i.e. each flow represents an individual session and treatment for each individual flow] [Figure 2; and paragraphs 0058, 0060 and 0067].

12. As per claim 2, Maher discloses wherein receiving a media session setup request includes receiving a request from a soft switch to allocate resources for a new media session [paragraphs 0020 and 0106].

13. As per claim 3, Maher discloses wherein the media session comprises at least one voice call [paragraphs 0047 and 0048].

14. As per claim 4, Maher discloses wherein the media stream comprises a Real-time Transmission Protocol (RTP) media stream [paragraph 0048].

15. As per claim 5, Maher discloses wherein assigning a local network and transport address combination includes assigning the local network and transport address combination to a media processing chip for processing the media stream [paragraphs 0069 and 0073].

16. As per claim 9, Maher discloses wherein learning the source network address includes dynamically assigning one of a plurality of distributed media processing elements in the media gateway to learn the source network address [i.e. dynamic address and port assigned] [paragraphs 0023, 0056].

17. As per claim 14, Maher discloses after step (d), performing firewall filtering for the subsequent media packets using the local network address, the local transport address, the source network address, and the source transport address [paragraphs 0021 and 0032].

18. As per claim 15, Maher discloses wherein performing firewall filtering includes rejecting media packets that have the local network address and the local transport address in their destination address fields but do not have the source network address and the source transport address in their source address fields [i.e. deny traffic] [paragraph 0021].

19. As per claim 20, Maher discloses the invention as claimed including a media gateway with internal network address translation (NAT) learning capabilities [i.e. a network processing system] [Figure 3; Abstract; and paragraph 0020 and 0032], the media gateway comprising:

a) a plurality of network interface cards for receiving media packets [42, 44, Figure 3; and paragraphs 0059 and 0060], for determining whether the media packets have been assigned to a session [i.e. flow represents an individual session] [Figure 2; and paragraphs 0058 and 0060 and 0066], and for forwarding the media packets that have been assigned to a session to a media processing resource [i.e. forward to microprocessor] [paragraphs 0073 and 0081];

(b) a plurality of media processing resources for processing the media packets that have been assigned to a session [i.e. processors] [110-116, Figure 4; and paragraphs 0064 and 0065]; and

(c) a NAT learning function located within the media gateway and operatively associated with the media processing resources and the network interface cards for learning dynamically assigned source addresses assigned to media packets and for communicating the learned source addresses to the network interface cards [i.e. learn the dynamic address and port assigned] [paragraphs 032, 0034, 0053 and 0056].

20. As per claim 21, Maher discloses wherein the network interface cards comprise packet network interface cards [42, 44, Figure 3; and paragraph 0022].

21. As per claim 22, Maher discloses wherein the network interface cards comprise ATM network interface cards [paragraphs 0060 and 0064].

22. As per claim 23, Maher discloses wherein the media processing resources include voice-over-IP SAR chips for processing voice-over-IP calls [i.e. receive and forward all VoIP signaling messages] [paragraphs 0003, 0031; and 0052].

23. As per claim 24, Maher discloses wherein the NAT-learning function is performed by the voice-over-IP SAR chips [paragraphs 0032, 0053].

24. As per claim 25, Maher discloses a plurality of voice server modules associated with the voice-over-IP SAR chips, a central processing unit located on each voice server module for controlling the voice-over-IP SAR chips, wherein the NAT learning function is performed by one of the central processing units that is dynamically assigned to the session [44, 46, Figure 3; Figure 4; and paragraphs 0060-0063, 0073 and 0081].

25. . As per claim 27, Maher discloses wherein the NAT learning function is adapted to learn the source network address and the source transport address and to distribute the learned source network address and the learned source transport address to at least one of the network interface cards [i.e. learns the dynamic address and port assigned by the firewall to forward all signaling traffic to the calling party] [paragraphs 0034 and 0056] and wherein the network interface cards are adapted to accept media packets addressed to a local network address and local transport address assigned to the session and from the learned source network address and the learned source transport address [Abstract; and paragraphs 0092 and 0095].

26. As per claim 28, Maher discloses wherein the network interface cards area adapted to reject media packets addressed to the local source network address and local source transport address assigned to the session but that do not have the dynamically learned source network address and dynamically learned source transport address assigned to the session [i.e. deny traffic] [paragraph 0021].

27. As per claim 29, Maher discloses wherein the NAT learning function is adapted

to selectively filter media packets for each session based on a local network address, a local transport address, a dynamically learned source address, and a dynamically learned transport assigned to each session, thereby performing firewall filtering on a per-session basis [paragraphs 0021 and 0032].

28. As per claims 30-33, they are rejected for similar reasons as stated above in claims 1-4.

29. As per claim 34, Maher discloses wherein the media stream comprises a Real-time Transmission Control Protocol (RTCP) media stream [paragraphs 0020 and 0048].

30. As per claim 35, it is rejected for similar reasons as stated above in claim 5.

Claim Rejections - 35 USC § 103

31. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

32. Claims 6-8, 10-13, 36-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maher, III et al. [US Patent No 2004/0128554], in view of Hoskins et al. [US Patent Application No 2003/0106067].

33. As per claim 6, Maher discloses wherein learning the source network address includes:

(a) receiving the initial media packet at the media processing resource [paragraph 0092];

(b) routing the initial media packet from the media processing resource to a central processing unit (CPU) operatively associated with the media processing resource [Figures 3 and 4; and paragraph 0106]; and

(c) at the CPU, extracting the source network address and from the initial media packet [paragraph 0104].

Maher does not specifically disclose broadcasting the learned source network address to a plurality of network interface cards in the media gateway.

Hoskins discloses broadcasting the learned source network address to a plurality of network interface cards in the media gateway [i.e. broadcast medium] [paragraphs 0084 and 0242].

It would have been obvious to a person skill in the art at the time the invention was made to combine the teaching of Maher and Hoskins because the teaching of Hoskins would provide to deliver information flows to network subscribers or users over RF cable network [Hoskins, paragraph 0001].

34. As per claim 7, it is rejected for similar reasons as stated above in claim 6.

35. As per claim 8, Maher discloses at the network interface cards, using the learned source network address, the learned source transport address, the local network address, and the local

transport address to create a per-session pin-hole for firewall filtering [paragraphs 0019-0021, 0033 and 0104].

36. As per claim 10, it is rejected for similar reasons as stated above in claim 6.

37. As per claim 11, it is rejected for similar reasons as stated above in claim 10.

38. As per claim 12, it is rejected for similar reasons as stated above in claim 8.

39. As per claim 13, Maher discloses wherein the media stream comprises a voice-over-IP-to-voice-over-IP media stream [paragraphs 0003 and 0031] and wherein accepting and processing subsequent media packets for the session includes receiving subsequent media packet associated with the session at a first network interface card [i.e. successive data packet] [paragraph 0066], determining a destination network interface card based on the destination address, and forwarding all the subsequent media packets to the selected destination network interface card [paragraphs 0073, 0081 and 0095].

40. As per claims 36-38, they are rejected for similar reasons as stated above in claims 6-8.

41. As per claims 39-42, they are rejected for similar reasons as stated above in claims 10-13.

42. As per claim 43, Maher discloses wherein accepting and processing subsequent media packets includes performing transcoding for the media packets [i.e. packet modification] [paragraphs 0060 and 0072].

43. As per claim 44, Maher discloses wherein accepting and processing subsequent media packets includes forwarding the subsequent media packets to the selected network interface card without performing trancoding [paragraph 0082].

44. As per claim 45, Maher discloses performing firewall filtering for the subsequent media packets associated with each session using the local network address, the local transport address, the learned source network address, and the learned source transport address [paragraphs 0019-0021, 0033 and 0104].

45. As per claim 46, it is rejected for similar reasons as stated above in claim 15.

47. Claims 16-19 and 47-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maher, III et al. [US Patent No 2004/0128554], in view of Ebisawa et al. [US Patent Application No 2004/0131165].

48. As per claim 16, Maher does not specifically disclose wherein the media session comprises a voice call and wherein the method further comprises seamlessly inserting an internal media processor into the call without changing topology of the call during any time of

the call, including call initialization time, call active state, and call release time. Ebisawa discloses wherein the media session comprises a voice call and wherein the method further comprises seamlessly inserting an internal media processor into the call without changing topology of the call during any time of the call, including call initialization time, call active state, and call release time [i.e. DTMF signal generating section] [Abstract; paragraphs 0020, 0109 and 0113]. It would have been obvious to a person skill in the art at the time the invention was made to combine the teaching of Maher and Ebisawa because the teaching of Ebisawa would allow telephoning by way of an IP network as a digital communication line or a public line as an analog communication line where appropriate while the signal line from the telephone set is connected [Ebisawa, paragraphs 0009 and 0011].

49. As per claim 17, Ebisawa discloses wherein inserting an internal media processor into the call includes inserting at least one of: an announcement server, a conference bridge, a DTMF generator, a DTMF collector, a voice mail server, and a law enforcement circuit into the call [1110, Figure 12; and paragraphs 0109 and 0117].

50. As per claims 18 and 19, they are rejected for similar reasons as stated above in claims 16 and 17.

51. As per claims 47-50, they are rejected for similar reasons as stated above in claims 16-19.

52. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Maher, III et al. [US Patent No 2004/0128554], in view of Cai [US Patent Application No 2003/0212999].

53. As per claim 26, Maher does not specifically disclose wherein the media processing resources include a first codec and a second codec and wherein the first codec and the second codec are used to perform transcoding for at least one of voice-over-IP to voice-over-IP calls, voice-over-IP to voice-over-AAL1 calls and voice-over-IP to voice-over-AAL2 calls. Cai discloses wherein the media processing resources include a first codec and a second codec and wherein the first codec and the second codec are used to perform transcoding for at least one of voice-over-IP to voice-over-IP calls, voice-over-IP to voice-over-AAL1 calls and voice-over-IP to voice-over-AAL2 calls [i.e. compression/decompression Codec] [paragraph 0053]. It would have been obvious to a person skill in the art at the time the invention was made to combine the teaching of

54. A shortened statutory period for response to this action is set to expire **3 (three) months and 0 (zero) days** from the mail date of this letter. Failure to respond within the period for response will result in **ABANDONMENT** of the application (see 35 U.S.C 133, M.P.E.P 710.02, 710.02(b)).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dustin Nguyen whose telephone number is (571) 272-3971. The examiner can normally be reached on flex.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan Flynn can be reached at (571) 272-1915. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dustin Nguyen

Examiner

Art Unit 2154